ACC.15
TCT@ACC-i2 | innovation in intervention

A309
JACC March 17, 2015
Volume 65, Issue 10S

Arrhythmias and Clinical EP

FREQUENCY AND PREDICTORS OF PACEMAKER IMPLANTATION AFTER CATHETER ABLATION OR CARDIOVERSION FOR ATRIAL FIBRILLATION

Poster Contributions
Poster Hall B1
Saturday, March 14, 2015, 10:00 a.m.-10:45 a.m.

Session Title: What's Going On in the World of Atrial Fibrillation?
Abstract Category: 4. Arrhythmias and Clinical EP: AF/SVT
Presentation Number: 1115-244

Authors: *Peter Noseworthy, Abhishek Deshmukh, Haas Lindsey, Van Houten Holly, Schilz Sara, Nilay Shah, Suraj Kapa, Paul Friedman, Douglas Packer, Samuel Asirvatham, Mayo Clinic, Rochester, MN, USA*

Background: Sinus node dysfunction requiring pacemaker implantation is commonly associated with atrial fibrillation (AF) but may not be clinically apparent until restoration of sinus rhythm with ablation or cardioversion. We sought to determine frequency, time course and predictors for pacemaker implantation after catheter ablation for AF and compare the overall rates to a matched cardioversion cohort.

Methods: In a retrospective analysis of a national administrative claims database we identified 12,158 atrial fibrillation patients who underwent catheter ablation between 2005 and 2012. The primary endpoint was pacemaker implant within 365 days. We evaluated frequency, time course, and independent predictors of pacemaker implant. In a secondary analysis we compared pacemaker rates after ablation to a propensity-matched cardioversion comparison group (matched for age, sex, year of treatment, CHADS2 score, and Charlson index).

Results: Over the study period, there was a reduction in the risk of pacemaker implant at one year rates from 10% in 2005 to 4% in 2012 ($p < 0.0001$). Age > 70 years, female gender, black race, heart failure and coronary artery disease were independent predictors of pacemaker implantation ($p<0.05$). The pacemaker implant rate was similar between patients in the ablation and cardioversion groups (3.27% vs. 3.78% at 1 year and 5.88% vs 5.95% at 5 years, respectively; p=NS for overall trend).

Conclusion: Overall, pacemaker implantation occurs in about 1/30 patients within one year of AF ablation, but this rate has decreased significantly between 2005 and 2012. Furthermore, the rate of pacemaker implantation after ablation is similar to that observed after cardioversion suggesting that patients require pacing due to a common underlying electrophysiologic substrate, rather than the ablation itself.